CLAIMS

1. Method for processing audio-signals whereby audio signals are captured at two spaced apart locations and subject to a transformation in perceptual domain, whereupon:

   a. a source separation process is performed to give a first estimate of the wanted signal parts and the noise parts of the microphone signals and

   c. a coherence based envelope filtering is performed to give a second estimate of the wanted signal parts of the microphone signals, and where further a sound field diffuseness detection is performed on the at least two signals,

   whereby further the sound field diffuseness detections is used to mix the output from the blind source separation and the coherence based separation process in order to achieve the best possible signal.

2. Method as claimed in claim 1 whereby a virtual stereophonic reconstruction of the signal is performed prior to presenting the resulting audio signal to right and left ear of a person, where by the stereophonic recombination is performed on the basis of spatial information on the sound field.

3. Method as claimed in claims 1, where the sound field diffuseness detection is based on the value of a short-time coherence function where the coherence function is expressed as:

$$\Gamma_{x1x2}(k) = \frac{\phi_{x1x2}(k)}{\sqrt{\phi_{x1x1}(k) \cdot \phi_{x2x2}(k)}}$$

where k is the number of the frequency band in the Bark or Mel frequency space.